

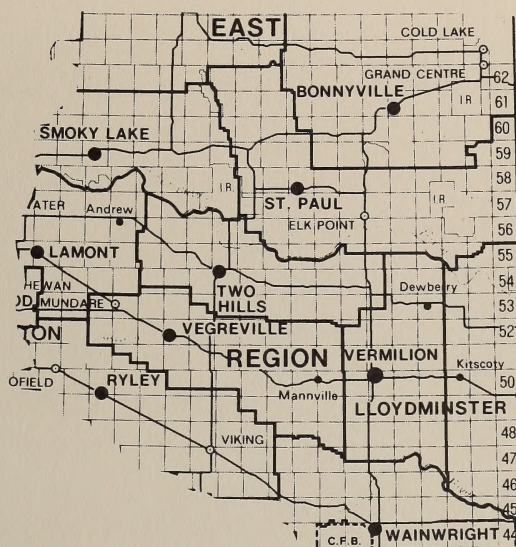
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JUL 25 1986

A CONSENSUS OF

Costs and Returns

Barley, Wheat, Canola
on a 1800 Acre Farm
in the
Vegreville District



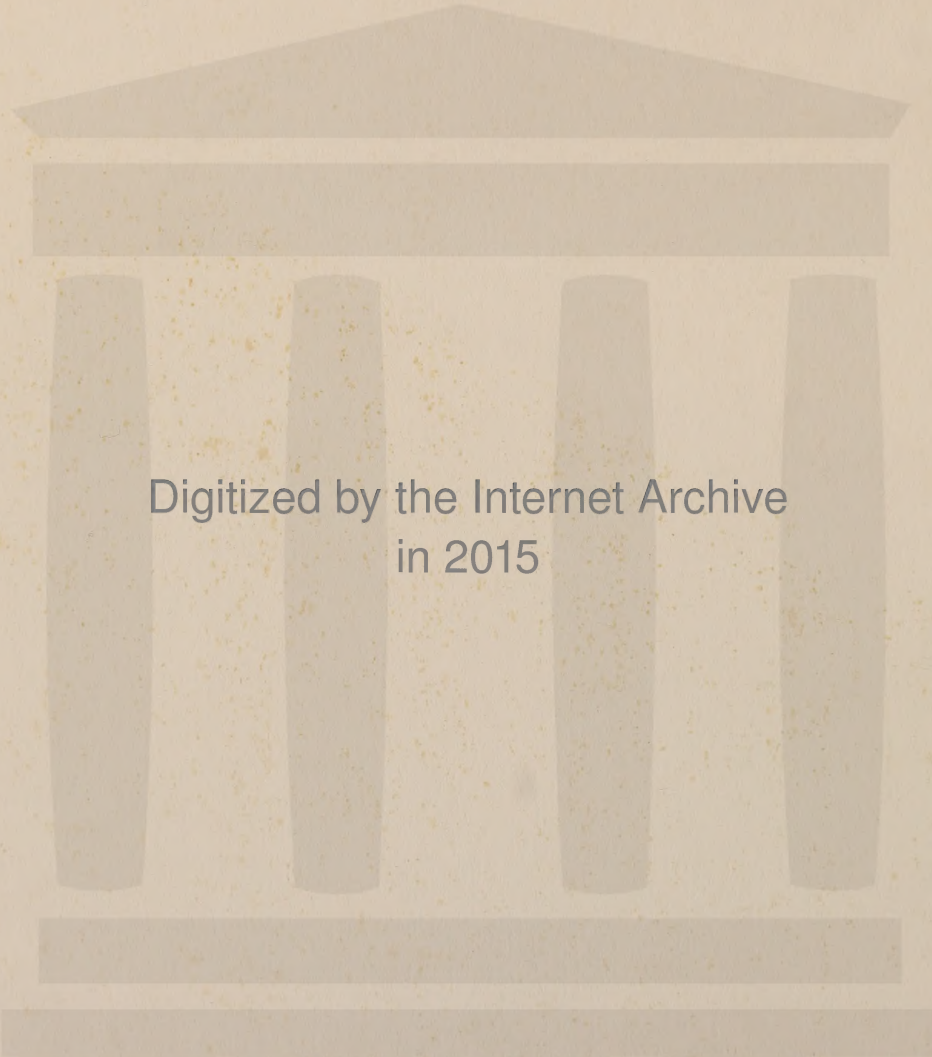
NORTHEAST ALBERTA

Alberta

AGRICULTURE

Economic Services Division

Production and Resource Economics Branch



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A CONSENSUS OF COSTS AND RETURNS

FOR

BARLEY, WHEAT, CANOLA

(CONVENTIONAL DRILLS USED FOR SEEDING)

IN THE

VEGREVILLE DISTRICT

BY

LLOYD ANDRUCHOW

AGRICULTURAL ECONOMIST

PRODUCTION AND RESOURCE ECONOMICS BRANCH

APRIL 1986

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THE CONSENSUS RESEARCH DATA (C.R.D.) TECHNIQUE 1

The C.R.D. or data sheet approach relies on group participation of interested farmers to arrive at a consensus of opinion of costs and returns. This consensus relates not area averages, but rather typical figures for the group of producers who provided the data. This distinction is important since different production practices carried out in small pockets within a larger area are often not truly reflected in average figures, (i.e. spring plowing in an area where discing is more common). Conversely, if within a given area there is a pocket of highly specialized crop density where certain production practices are different, then the specialized costs of that practice can bias the overall area average costs and render them less useful. For these and other reasons, consensus research data must be interpreted with the above conditions in mind.

Consensus figures are based on current investment and operational costs and therefore reflects the cost and return situation which would have to be contemplated by new farm operators. These figures are associated with the management and cultural expertise of the participants within a particular geographic area. While care should be exercised when applying C.R.D. data to individual cases, the greatest advantage of the technique is that it can specific (i.e. to the rotation, cultural practices, breed, or ration), timely, locally oriented and based on the cumulative experience of farmers operating in the area.

-
1. For more information on the C.R.D. technique, contact your Regional Economist, District Agriculturist, or the Production and Resource Economics Branch of the Alberta Department of Agriculture.

A CAUTIONARY NOTE ON USE OF CONSENSUS RESEARCH DATA REPORTS

The total costs of production shown in this report include all economic costs, including "opportunity costs".* Specifically, the costs of all labour and interest on capital investment is listed even though the farm owner may provide all labour and have equity not requiring an interest payment to be made. In fact, the enterprise may not yield enough revenue to pay these costs. Opportunity cost is not allowed as an expense for income tax purposes, and therefore, taxable income will ordinarily exceed profit shown in this report by the amount of opportunity cost included.

It is also true that the cost of owner's labor and interest on capital investment differ among farmers and will vary with market demands for his skills and/or capital assets as well as investment opportunities available to him through alternate enterprises.

C.R.D. report calculations are based on all investment being owned by operator and therefore investment costs are shown as opportunity costs. Hired labour and paid interest are actual costs, not opportunity costs and when budgeting for a specific operation, they should be calculated at actual rates paid.

Valuable information for budgeting and planning purposes are obtained from the lists of inputs required as well as the breakdown of input costs between fixed costs (land and machinery) and variable costs (labor, number of operations and operating costs, including maintenance and repairs, as well as materials, service, etc.). However, these costs should be used as guidelines for comparison with an individual's calculation or estimation of costs applying to his specific operation.

* Income which could be generated through operator's investment in alternate enterprises. e.g. Sell land at market value and buy Canada Savings Bonds.

INTRODUCTION

Today's farming demands that cost and return information be available for alternatives which the producer should consider when planning future production. With today's high cost of inputs and machinery it is particularly important to have all available information at hand to make good management decisions

This report provides an estimate of the costs and returns based on a consensus of a group of farmers in the Vegreville district for barley-wheat-canola production. The farm consists of 1800 acres which are continuous cropped.

OBJECTIVES

This report was prepared to provide an estimate of production costs and the expected returns for continuous barley production. Such information can be an important guide in decision-making, but the reader should keep in mind that costs vary between producers because of the differences in cultural and management practices. The farmer's own records are essential to determine what it actually costs to produce a crop on his particular farm.

This report can be useful for management decisions:

1. In selecting the enterprise or crop rotation yielding the highest return;
2. In determining the amount of cash required to operate during a season;

3. In determining the amount of time expected to be spent on an enterprise;
4. For projecting the income and expense when considering new investments;
5. In determining how the income and expense should be shared in rental arrangements;
6. To compare to actual costs incurred in your farming enterprise.

SOURCE AND METHOD OF DATA COLLECTION

The information for this report was gathered from a group of farmers in the Vegreville District. A day was spent with them discussing the costs involved, the complement of machinery required and the cultural practices carried out on each operation. This information was compiled and costs calculated to determine the total costs of production and the returns expected from barley production.

DEFINITIONS

Total Cash Costs Per Acre include hired labour, fuel, oil, repairs, seed, fertilizers, sprays, and all cash overhead such as taxes, insurance, and interest on operating capital. To maintain viability these costs must be covered in the short run. Operators comparing their cash costs to those in the C.R.D. should recognize that payments on land and equipment have been omitted. Instead an interest on land, building and machinery investment has been charged under non-cash costs. High cash costs per acre and per bushel make it more difficult for producers to meet commitments in the short run when prices are low and market opportunities are weak.

Total Non-Cash Costs Per Acre include depreciation on buildings and equipment; interest on buildings, equipment and land; and an allowance for operator and family labour. While these costs are not out of pocket costs, the grain enterprise must provide sufficient revenue to cover these costs if the operator is to continue farming over a period of time.

Total Cost Per Acre include all cash and non-cash costs. These must be covered in the long run. Returns that do not cover total costs will force the operator to take a lower return for his investment and labour or force him to shift his resources to more profitable activities.

Gross Cash Margin Per Acre or returns over cash costs is often used by producers to compare the profitability of various crops. Gross cash margin is the residual left to pay for the operator's labour and his investment in land, machinery, buildings and supplies. Consideration should be given to the cash returns that can be expected from crops since quotas and off-farm sales have an influence on this figure.

Return to Labour and Management is the amount left after all costs except operator's labour have been subtracted from expected returns. To compare to other enterprises, the operator should bring these returns to a common base such as returns per hour to labour and management.

Assumptions Specific to This Study

1. A farm with black soil (Class 2) in the Vegreville district 6 miles from grain delivery point.
2. The farm consists of 1,800 acres which are continuous cropped. Crops include:

<u>CROP</u>	<u>ACRES</u>
Canola	630
Wheat	720
Barley	450

3. Machinery operating costs are based on Alberta Agriculture's "Farm Machinery Costs," March, 1985.

	<u>New Value</u>	<u>Average Life</u>	<u>Salvage Value</u>
Trac 300 HP (4WD)	115 000	10	34 500
Trac 125 HP (2WD)	65 000	15	16 250
Deep Till Cult 45'	20 000	10	5 000
Hoe Drill 28'	30 000	10	5 000
Harrow Packer 55'	15 000	15	5 000
Conv. Sprayer (500 Gal) 70'	7 000	10	700
Tandem Disc 30'	30 000	15	10 000
Swather (2) S.P. 20' Each	60 000	7	18 000
Combine S.P. Class 4	120 000	10	40 000
Combine P.T. Class 3	60 000	10	18 000
5T Truck	50 000	15	15 000
3T Truck	32 000	15	9 000
½T Truck (2)	28 000	7	3 000
10" X 60' Auger P.T.O.	5 000	15	1 000
7" X 45' Auger (Grain & Fert)	2 500	5	750
8" X 45' Auger P.T.O.	1 600	15	400
Grain Drying Equip.	11 000	26	5 500
Storage Bins	57 384	25	5 700
Shop/Shed	22 000	30	2 200
Trac 50 H.P.	25 000	20	1 000

4. Sequence of operations.

<u>OPERATION</u>	<u>CANOLA</u>	<u>WHEAT</u>	<u>BARLEY</u>
- - - - -Times Over-	- - - - -	- - - - -	- - - - -
Cult. (Fall and Spring)	3	2	3
Disc (Chem. Appl)	2	0	0
Fert (anhy)	1	1	1
Harrow Packer	1	2	2
Seed	1	1	1
Spray	1/3	1	1
Swath	1	1	1
Combine	1	1	1

5. The yields and prices are as follows:
- | | | |
|--------|-------------|------------|
| Canola | 25 bu./acre | \$8.00/bu. |
| Wheat | 40 bu./acre | \$4.00/bu. |
| Barley | 60 bu./acre | \$2.55/bu. |

6. Seeding rates and prices are as follows:

Canola	7 lbs./acre	\$0.86/lb.
Wheat	1.75 bu./acre	\$6.00/bu.
Barley	2.0 bu./acre	\$3.00/bu.
7. Chemical application rates and prices:

Canola	Treflan (472 acres)	8 ac./jug	\$102.00/Jug
	Poast (158 acres)		\$ 30.00/acre
Wheat &	Buctril M, MCPA		\$ 4.50/acre
Barley	Wildoat Herbicide		\$ 10.00/acre
8. Fertilizer rates and prices:

Canola, Barley, Wheat	NH ₃ 82-0-0	57 lbs/acre	\$0.21/lb
	11-51-0	55 lbs/acre	\$0.145/lb
9. The land value is \$600/acre and land tax is \$3.52/acre.
10. Fuel prices are:

Purple	27.8¢/litre
Diesel	26.0¢/litre
11. Crop insurance premiums:

Canola	\$4.50/acre
Barley	\$3.00/acre
Wheat	\$3.00/acre
12. Interest rates used:

a)	Operating Capital	13%
b)	Building, Machinery	12%
c)	Land	6%
13. Miscellaneous Expenses Included:

Machinery/Building Insurance	\$1 800	\$1.00/acre
Life Insurance	\$ 550	\$0.30/acre
Utilities	\$3 360	\$1.86/acre
Miscellaneous	\$1 000	\$0.56/acre

TABLE 1

Summary of Consensus Report - Costs and Returns

	TOTAL FARM 1800 Acres	BARLEY 450 Acres	CANOLA 630 Acres	WHEAT 720 Acres
	- - - - - Dollars Per Acre - - - - -			
Cash Cultural Costs	53.69	51.78	54.25	54.40
Cash Harvest Costs	16.22	17.07	14.63	17.07
Cash Overhead Costs	<u>16.01</u>	<u>15.38</u>	<u>16.98</u>	<u>15.55</u>
TOTAL CASH COSTS	85.92	84.23	85.86	87.02
Depreciation	27.40	28.22	27.58	26.72
Interest	66.30	67.40	66.13	65.76
Operator's Labour	<u>3.20</u>	<u>3.37</u>	<u>3.05</u>	<u>3.23</u>
TOTAL NON-CASH COSTS	96.90	98.99	96.75	95.70
TOTAL COSTS	182.82	183.22	182.62	182.72
EXPECTED RETURNS	172.25	153.00	200.00	160.00
GROSS CASH MARGIN	86.33	68.77	114.14	72.98
RETURNS OVER TOTAL COSTS	-10.57	-30.22	17.38	-22.72
RETURN TO INVESTMENT	55.73	37.18	83.51	43.04
% Return to Investment	6.50	4.22	9.89	4.96
RETURN TO LAND AND LABOUR	28.64	9.15	56.43	16.51

TABLE 3 : MACHINERY INVESTMENT SCHEDULE

OPER	SIZE	CP	SAL	ACC	SCC	FCT LIFE	ANDEF	ANINT	DEPAC	INTAC	HF	APH	FUEL	REP	TFR
ANHY	50F	0.	0.	1800.	630.	35.00 20.	0.00	0.00	0.00	0.00	125.0	27.80	8.01	4.46	12.47
HD CULT	45F	20000.	5000.	4680.	1890.	40.38 10.	605.77	605.77	0.96	0.96	300.0	25.50	18.78	24.61	43.39
HAR. FK.	55F	15000.	5000.	2970.	630.	21.21 15.	141.41	254.55	0.22	0.40	125.0	32.04	8.06	6.14	14.20
DISC	30F	30000.	10000.	1215.	630.	51.85 15.	691.36	1244.44	1.10	1.98	300.0	17.46	18.77	14.55	33.32
SPRAY	70F	7000.	700.	1328.	158.	11.86 10.	74.72	54.79	0.12	0.09	125.0	36.05	8.04	12.57	20.61
H. DRILL	28F	30000.	5000.	1800.	630.	35.00 10.	875.00	735.00	1.39	1.17	125.0	13.55	8.11	19.28	27.39
SWATHER	20F	30000.	9000.	900.	315.	35.00 7.	1050.00	819.00	1.67	1.30	0.0	15.26	5.08	4.10	9.18
SWATHER	20F	30000.	9000.	900.	315.	35.00 10.	2800.00	3360.00	4.44	5.33	0.0	4.00	13.57	21.57	35.14
FT COMB	60IN	60000.	18000.	900.	315.	35.00 10.	1470.00	1638.00	2.33	2.60	300.0	4.00	18.80	26.06	44.86
TRUCK	TAN	50000.	15000.	1800.	630.	35.00 15.	816.67	1365.00	1.30	2.17	0.0	28.64	8.14	10.18	18.32
TRUCK	3T	32000.	9000.	1800.	630.	35.00 15.	536.67	861.00	0.85	1.37	0.0	19.09	7.98	5.70	13.68
TRUCK	.5T	28000.	3000.	1800.	630.	35.00 7.	1250.00	651.00	1.98	1.03	0.0	11.61	4.06	2.98	7.04
AUGER	10IN	5000.	1000.	1800.	630.	35.00 15.	93.33	126.00	0.15	0.20	50.0	150.00	3.56	1.51	5.07
AUGER	8IN	1600.	400.	1800.	630.	35.00 15.	28.00	42.00	0.04	0.07	50.0	39.40	3.56	1.35	4.91
AUGER	7IN	2500.	750.	1800.	630.	35.00 5.	122.50	68.25	0.19	0.11	0.0	114.50	1.40	0.25	1.65
TRAC	300HF	115000.	34500.	6795.	2835.	41.72 10.	3358.61	3742.45	5.33	5.94	300.0	0.00	0.00	0.00	0.00
TRAC	125HF	65000.	16250.	7898.	2048.	25.92 15.	842.54	1263.81	1.34	2.01	125.0	0.00	0.00	0.00	0.00
TRAC	50HF	25000.	1000.	4770.	1260.	26.42 20.	316.98	412.08	0.50	0.65	50.0	0.00	0.00	0.00	0.00
ALL		666100.	182600.	47656.	15750.		16123.56	18062.14	25.59	28.67			141.00	159.41	300.41

TABLE 4 : FIXED COSTS ON 630 ACRES OF Canola (CROP)

LAND, BLDGS, EQPT	COST	AVVAL	FCT	LIFE	REFREC	INTEREST	TOTAL	CROPLAND
LAND (---YRS)	1080000.	1080000.	35.00	100.	0.00	22680.00	22680.00	CROP1 Canola 630. ACRES
SHOP, SUPP, TOOLS	22000.	12100.	35.00	20.	346.50	254.10	600.60	CROP2 Wheat 720. ACRES
BUILDINGS	57384.	31561.	35.00	20.	903.80	662.79	1566.58	CROP3 Barley 450. ACRES
EQUIPMENT	666100.	424350.	32.72	12.	16123.56	18062.14	34185.69	CROP4 0. ACRES
								CROP5 0. ACRES
TOTAL	1825484.	1548011.			17373.85	41659.02	59032.88	ALL CROPS 1800. ACRES

TABLE 5: RETURNS AND COSTS TO OPERATORS LAND, LABOUR AND MANAGEMENT
AT VARYING YIELDS AND PRICES

PRICE PER BU.	YIELD - BUSHELS PER ACRE-Canada----- (CROP)				AV.	+10	+20	+30
	-30	-20	-10	20.00				
17.50		20.00	22.50	25.00	27.50	30.00	32.50	
33.89	-20.45	7.01	6.43	19.87	33.32	46.76		
25.14	-10.45	4.24	18.93	33.62	48.32	63.01		
16.39	-0.45	15.49	31.43	47.37	63.32	79.26		
7.64	9.55	26.74	43.93	61.12	78.32	95.51		
1.11	19.55	37.99	56.43	74.87	93.32	111.76		
9.86	29.55	49.24	68.93	88.62	108.32	128.01		
18.61	39.55	60.49	81.43	102.37	123.32	144.26		
27.36	49.55	71.74	93.93	116.12	138.32	160.51		
36.11	59.55	82.99	106.43	129.87	153.32	176.76		
COSTS AND RETURNS PER UNIT----- (BU., CWT., TON, ETC.)								
3.100	2.713	2.411	2.170	1.973	1.808	1.669		
0.585	0.585	0.585	0.585	0.585	0.585	0.585		
0.954	0.840	0.750	0.679	0.621	0.572	0.531		
4.639	4.137	3.747	3.435	3.179	2.966	2.786		
5.354	4.685	4.165	3.748	3.407	3.123	2.883		
0.142	0.133	0.127	0.122	0.118	0.114	0.111		
10.136	8.956	8.039	7.305	6.704	6.204	5.780		

TABLE 6: PRODUCTION COSTS AND RETURNS

CRD NO. -269
COUNTY - Vegreville - - -

CROP ~~Wheat~~ ----

ACRES-720

DATE Spring 1985--
REG. EC. Charles Pearson

OPERATIONS		CASH COSTS AND OPERATORS LABOUR PER ACRE							TOTAL		
CULTURAL:	TIMES	HRS PER AC		OPER	HIRED	FUEL\RP	KIND	MATERIALS		COST	COST PER AC
		EQUIP HRS	LABOUR HRS					QUANT	C/UNIT		
				\$	\$	\$			\$	\$	\$
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
ANHY	50F	1.0	0.04	0.04	0.13	0.13	0.45	82-0-0	57 lbs .21/lb	11.97	12.55
HD CULT	45F	2.0	0.08	0.09	0.28	0.28	3.47	11-55-00	55 lbs .145/lb	7.98	11.73
HAR. PK.	55F	2.0	0.06	0.07	0.22	0.22	0.89	BUCTRIL M - MCPA	115 lbs	4.50	5.61
DISC	30F	0.5	0.03	0.03	0.10	0.10	0.95	WILD OAT HERBICIDE		10.00	11.06
SFRAY	70F	1.0	0.03	0.03	0.10	0.10	0.57	SEED 1 3/4 BU	6.00/BU	10.50	11.17
H. DRILL	28F	1.0	0.07	0.08	0.26	0.26	2.02			0.00	2.29
										0.00	0.00
										0.00	0.00
										1.10	54.40
CASH CULTURAL COSTS											
HARVEST-----TIMES											
SWATHER	20F	0.5	0.03	0.04	0.12	0.12	0.30				0.42
SWATHER	20F	0.5	0.03	0.04	0.12	0.12	0.30				0.42
SF COMB	60IN	0.5	0.13	0.14	0.45	0.45	4.39				4.84
PT COMB	60IN	0.5	0.13	0.14	0.45	0.45	5.61				6.05
TRUCK	TAN	1.0	0.03	0.04	0.12	0.12	0.64				0.76
TRUCK	3T	1.0	0.05	0.06	0.19	0.19	0.72				0.90
TRUCK	.5T	1.0	0.09	0.09	0.31	0.31	0.61				0.91
AUGER	10IN	1.0	0.01	0.01	0.02	0.02	0.03				0.06
AUGER	8IN	1.0	0.03	0.03	0.09	0.09	0.12				0.22
AUGER	7IN	1.0	0.01	0.01	0.03	0.03	0.01				0.05
DRYER	500BU	1.0	0.07	0.07	0.24	0.24	2.20				2.43
										2.13	17.07
CASH HARVEST COSTS											
CASH OVERHEAD PER ACRE											
UTILITIES \$1.86 CROP. INSUR. \$3.00 STATIONERY, ETC \$----											4.86
TAX YEARS -----PER YEAR \$3.52											3.52
RENT/ACRE \$-----RATE ON OP CAP 13 PCT AV. OPER. CAP \$70.50 TIME 1/2 YEARS											5.31
BLDG. INS. \$-----LABOUR INSUR. \$-----MACHINE INSUR. \$1.86											1.86
CASH OVERHEAD COSTS											15.55
TOTAL CASH COSTS PER ACRE											87.02
EXPECTED CASH RETURNS PER ACRE											160.00
GROSS CASH MARGIN											72.98
LABOUR RATE RETURNS PER ACRE											
PER HOUR \$6.50 CROP ~~Wheat~~ YIELD 40 VALUE \$4.00											
SUMMARY:											
TOTAL CASH COSTS PER ACRE											87.02
AV INVEST/AC USED ON STUDY CROP											
ITEM		PER ACRE		DEPRECIATION		INTEREST					
LAND		600.00		0.00		36.00		36.00			
SHOP SUPPLIES		6.72		0.55		0.40		0.95			
BUILDINGS		17.53		1.43		1.05		2.49			
EQUIPMENT		243.09		24.73		28.30		53.03			
TOTAL		867.35		26.72		65.76		0.00			
NON-CASH OVERHEAD											92.47
OPERATORS LABOUR											3.23
TOTAL NON-CASH COSTS PER ACRE											95.70
(A) TOTAL COSTS PER ACRE											182.72
(B) LESS OPERATORS LABOUR											179.49
(C) LESS OPS LABOUR PLUS INTEREST ON LAND											143.49
(D) EXPECTED RETURNS PER ACRE											160.00
RETURNS TO OPERATORS LAND, LABOUR, MANAGEMENT (D-C)											16.51
RETURNS TO OPERATORS LABOUR AND MANAGEMENT (D-B)											19.44

TABLE 9 : RETURNS AND COSTS TO OPERATORS LAND, LABOUR AND MANAGEMENT
AT VARYING YIELDS AND PRICES

PRICE PER BU.	YIELD - BUSHELS PER ACRE-----Wheat----- (CROP)						
	- .30	- .20	- .10	AV.	+ .10	+ .20	+ .30
	28.00	32.00	36.00	40.00	44.00	48.00	52.00
3.00	-54.04	-43.86	-33.68	-23.49	-13.31	-3.13	7.05
3.25	-47.04	-35.86	-24.68	-13.49	-2.31	8.87	20.05
3.50	-40.04	-27.86	-15.68	-3.49	8.69	20.87	33.05
3.75	-33.04	-19.86	-6.68	6.51	19.69	32.87	46.05
4.00	-26.04	-11.86	2.32	16.51	30.69	44.87	59.05
4.25	-19.04	-3.86	11.32	26.51	41.69	56.87	72.05
4.50	-12.04	4.14	20.32	36.51	52.69	68.87	85.05
4.75	-5.04	12.14	29.32	46.51	63.69	80.87	98.05
5.00	1.96	20.14	38.32	56.51	74.69	92.87	111.05
COSTS AND RETURNS PER UNIT----- (BU., CWT., TON, ETC.)							
CASH CULT COST	1.943	1.700	1.511	1.360	1.236	1.133	1.046
CASH HARV COST	0.427	0.427	0.427	0.427	0.427	0.427	0.427
CASH OVHD COST	0.544	0.479	0.429	0.389	0.356	0.329	0.305
TOT CASH COST	2.913	2.606	2.367	2.175	2.019	1.889	1.778
NON-CASH OV/HO	3.303	2.890	2.569	2.312	2.102	1.927	1.778
OPERATOR LABOR	0.093	0.088	0.084	0.081	0.078	0.076	0.074
TOTAL COSTS	6.308	5.583	5.019	4.568	4.199	3.891	3.631

DATE Spring 1985
REG. EC Charles Pearson

OPERATIONS		CASH COSTS AND OPERATORS LABOUR PER ACRE								TOTAL			
		TIMES	HRS	PER AC				MATERIALS		COST	COST		
		EQUIP	LABOUR	OPER	HIRED	FUEL	RP	KIND	QUANT	C/UNIT	PER AC		
CULTURAL:		HRS	HRS	\$	\$	\$				\$	\$		
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----		
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
ANHY	50F	1.0	0.04	0.04	0.13	0.13	0.45	82-0-0	57 lbs	.21/lb	11.97	12.55	
HD CULT	45F	3.0	0.12	0.13	0.42	0.42	5.21	11-51-0	55 lbs	.145/lb	7.98	13.61	
HAR. PK.	55F	2.0	0.06	0.07	0.22	0.22	0.89	Buctril M + MCPA			4.50	5.61	
DISC	30F	0.5	0.03	0.03	0.10	0.10	0.95	Wild Oat Herbicide			10.00	11.00	
SPRAY	70F	1.0	0.03	0.03	0.10	0.10	0.57	SEED	2 BU	3.00/BU	6.00	6.67	
H. DRILL	28F	1.0	0.07	0.08	0.26	0.26	2.02				0.00	2.29	
											0.00	0.00	
											0.00	0.00	
											1.24	CASH CULTURAL COSTS	51.78
HARVEST-----TIMES													
SWATHER	20F	0.5	0.03	0.04	0.12	0.12	0.30					0.42	
SWATHER	20F	0.5	0.03	0.04	0.12	0.12	0.30					0.42	
SP COMB	60IN	0.5	0.13	0.14	0.45	0.45	4.39					4.84	
PT COMB	60IN	0.5	0.13	0.14	0.45	0.45	5.61					6.05	
TRUCK	TAN	1.0	0.03	0.04	0.12	0.12	0.64					0.76	
TRUCK	3T	1.0	0.05	0.06	0.19	0.19	0.72					0.90	
TRUCK	.5T	1.0	0.09	0.09	0.31	0.31	0.61					0.91	
AUGER	10IN	1.0	0.01	0.01	0.02	0.02	0.03					0.06	
AUGER	8IN	1.0	0.03	0.03	0.09	0.09	0.12					0.22	
AUGER	7IN	1.0	0.01	0.01	0.03	0.03	0.01					0.05	
DRYER	500BU	1.0	0.07	0.07	0.24	0.24	2.20					2.43	
											2.13	CASH HARVEST COSTS	17.07
CASH OVERHEAD PER ACRE													
UTILITIES \$1.86		CROP. INSUR. \$3.52		STATIONERY, ETC \$-----								4.86	
TAX YEARS -----PER YEAR \$-----		13		FACT		AV.OPER.CAP \$79.09		TIME 1/2		YEARS		3.52	
RENT/ACRE \$-----		RATE ON OP CAP		13		FACT		AV.OPER.CAP \$79.09		TIME 1/2		5.14	
BLDG. INS. \$-----		LABOUR INSUR. \$-----		MACHINE INSUR. \$1.86								1.86	
											CASH OVERHEAD COSTS	15.38	
TOTAL CASH COSTS PER ACRE											84.23		
EXPECTED CASH RETURNS PER ACRE											153.00		
GROSS CASH MARGIN											68.77		
LABOUR RATE RETURNS PER ACRE													
PER HOUR \$6.50		CROP Barley		YIELD 60 BU		VALUE \$2.55							
SUMMARY:													
TOTAL CASH COSTS PER ACRE											84.23		
AV INVEST/AC USED ON STUDY CROP													
ITEM		PER ACRE		DEPRECIATION		INTEREST							
LAND		600.00		0.00		36.00		36.00					
SHOP SUPPLIES		6.72		0.55		0.40		0.95					
BUILDINGS		17.53		1.43		1.05		2.49					
EQUIPMENT		257.82		26.24		29.94		56.18					
TOTAL		882.08		28.22		67.40		0.00					
											NON-CASH OVERHEAD	95.62	
											OPERATORS LABOUR	3.37	
TOTAL NON-CASH COSTS PER ACRE											98.99		
(A) TOTAL COSTS PER ACRE											183.22		
(B) LESS OPERATORS LABOUR											179.85		
(C) LESS OPS LABOUR PLUS INTEREST ON LAND											143.85		
(D) EXPECTED RETURNS PER ACRE											153.00		
RETURNS TO OPERATORS LAND, LABOUR, MANAGEMENT (D-C)											9.15		
RETURNS TO OPERATORS LABOUR AND MANAGEMENT (D-B)											26.88		

TABLE 13: RETURNS AND COSTS TO OPERATORS LAND, LABOUR AND MANAGEMENT
AT VARYING YIELDS AND PRICES

PRICE PER BU.	YIELD - BUSHELS PER ACRE <u>Barley</u> ----- (CROP)				
	-.30	-.20	-.10	AV.	+ .10 + .20 + .30
	42.00	48.00	54.00	60.00	66.00 72.00 78.00
1.75	-64.89	-56.21	-47.53	-38.85	-30.16 -21.48 -12.80
1.95	-56.49	-46.61	-36.73	-26.85	-16.96 -7.08 2.80
2.15	-48.09	-37.01	-25.93	-14.85	-3.76 7.32 18.40
2.35	-39.69	-27.41	-15.13	-2.85	9.44 21.72 34.00
2.55	-31.29	-17.81	-4.33	9.15	22.64 36.12 49.60
2.75	-22.89	-8.21	6.47	21.15	35.84 50.52 65.20
2.95	-14.49	1.39	17.27	33.15	49.04 64.92 80.80
3.15	-6.09	10.99	28.07	45.15	62.24 79.32 96.40
3.35	2.31	20.59	38.87	57.15	75.44 93.72 112.00

COSTS AND RETURNS PER UNIT ----- (BU., CWT., TON, ETC.)

CASH CULT COST	1.233	1.079	0.959	0.863	0.785	0.719	0.664
CASH HARV COST	0.284	0.284	0.284	0.284	0.284	0.284	0.284
CASH OVHD COST	0.358	0.316	0.283	0.256	0.235	0.217	0.201
TOT CASH COST	1.876	1.679	1.526	1.404	1.304	1.220	1.150
NON-CASH OV/HD	2.277	1.992	1.771	1.594	1.449	1.328	1.226
OPERATOR LABOR	0.065	0.061	0.058	0.056	0.054	0.053	0.051
TOTAL COSTS	4.217	3.732	3.355	3.054	2.807	2.601	2.427

TABLE 14

RETURNS NEEDED AT VARIOUS EQUITY POSITIONS
TO MEET CASH FLOW REQUIREMENTS

1800 ACRE GRAIN OPERATION

<u>Equity Level</u>	<u>100%</u>	<u>75%</u>	<u>50%</u>	<u>25%</u>	<u>Your Farm</u>
Amount Borrowed	0	378 150	756 300	1 134 450	_____
Interest and Principal Payments/Year	0	44 509	89 018	133 527	_____
-----Dollars Per Acre-----					
Cash Costs	85.92	85.92	85.92	85.92	_____
Operator's Living Allowance	3.20	3.20	3.20	3.20	_____
Interest and Principal Payment	0	24.73	49.46	74.19	_____
Short Term Break-even Point	89.12	113.85	138.58	163.31	_____
+ Depreciation	27.40	27.40	27.40	27.40	_____
Long Term Break-even Point	116.52	141.25	165.98	190.71	_____

* Land and buildings were amortized over 20 years 10 per cent while 5 years and 13 per cent was used for machinery.

NLC-BNC



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